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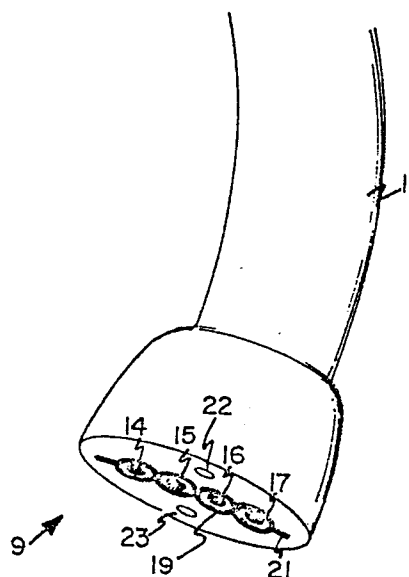
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54 **Method and apparatus for measuring cardiac output.**

57 Cardiac output is measured utilizing an indicator. Such as saline, which alters blood resistivity, and an electrically calibrated conductivity cell (9) positioned at the tip (21) of a catheter (11). The catheter with the tetrapolar conductivity cell at the top is inserted into a blood vessel for current injection to develop a potential which is proportional to blood resistivity for inscribing the dilution curve occurring due to injection of the indicator, which curve is utilized to determine blood flow or cardiac output.





European Patent  
Office

# EUROPEAN SEARCH REPORT

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Application number

EP 83 30 2246

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
P, X	IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol. BME-29, no. 12, December 1982, pages 769-772, IEEE, New York, US; D.S. GRUBBS et al.: "A new technique for obtaining values of cardiac output in rapid succession" * Whole document *	1-12	A 61 B 5/02 A 61 B 5/00
Y	--- MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol. 18, no. 4, July 1980, pages 439-446, IFMBE, Stevenage, GB; A. CONSTANTINESCO et al.: "Intravascular mean blood velocity measurements using a crosscorrelation technique" * Page 440, paragraph 2; page 445, paragraph 5; figures 1,2 *	1,2	
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Y	--- US-A-3 290 589 (L.R. HUBBARD) * Column 2, lines 45-51; figure 3 *	1,2	
A	--- DE-A-2 819 128 (R.-H. RABEN) * Page 9, last paragraph; figure 6 *	1,10	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-10-1985	Examiner RIEB K.D.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			



DOCUMENTS CONSIDERED TO BE RELEVANT			Page 2
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A	--- MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol. 17, no. 3, May 1979, pages 337-343, IFMBE, Stevenage, GB; A. van OOSTEROM et al.: "Intramural resistivity of cardiac tissue" * Figures 1,3 *	7,9	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
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